Australian Army recruit training: course length and recruit injury rates

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Australian Army recruit training course length and recruit injury rates

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1. Bond University
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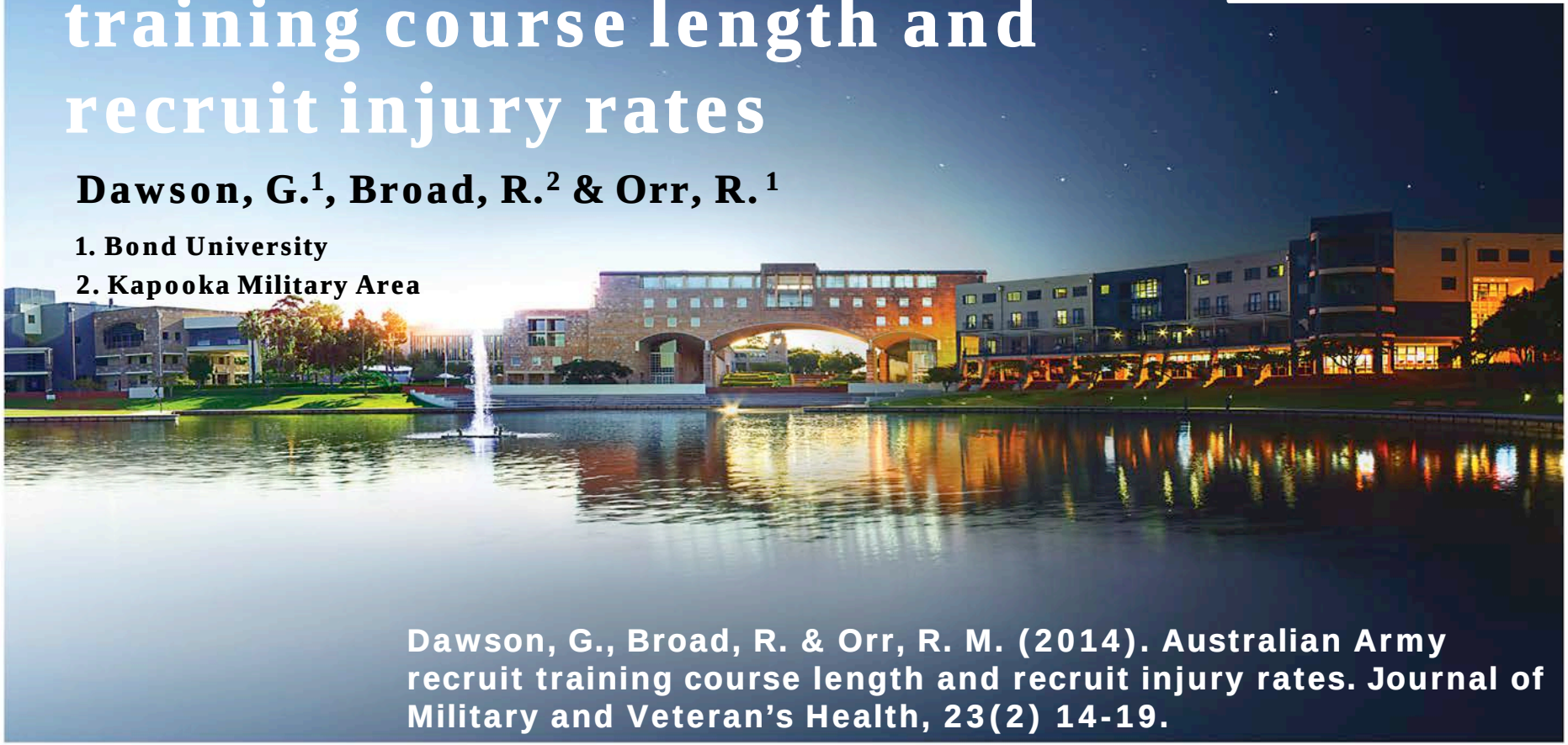

Dawson, G., Broad, R. & Orr, R. M. (2014). Australian Army recruit training course length and recruit injury rates. Journal of Military and Veteran's Health, 23(2) 14-19.




Background

- Military recruits are at a greater risk of injury when compared to qualified soldiers

  (Orr & Pope, 2015; Booth et al., 2006; Kaufman et al., 2000)

- The sudden increase in load may lead to over training and eventual injury

  (Prigg et al. 2000)

- Would decreasing load but retaining training requirements decrease risk of injury?

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Aims and Hypothesis

- Aims:
  - Investigate the influence of lengthening a recruit training course from 80 days to 100 days
  - Profile injuries that occur

- Hypothesis:
  - The longer the training period, the greater the risk of injury.




Participants

- Australian Regular Army recruits attending Basic Recruit training at Kapooka
- Recruits were randomly selected for each course

Course	Number of Platoons	Number of Recruits	Male Recruits	Female Recruits
ASC	2	73	56	17
ARC	4	194	152	42
Total	6	267	208	59

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Methods

- Data recorded during two different Army recruit training courses over 1 year period (2013)
  - *ASC (100 d) / ARC (80 d)*
- The ASC contained all aspects of the ARC with a more gradual increase in load over the first four weeks

  ....also contained additional military field training and an extended field phase

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Methods

- Injury Prevalence
  - *Number of reported injuries / number of recruits completing the respective course x 100*

- Injury Incidence
  - *(Number of reported injuries / number of recruits completing the respective course x 100 (soldiers)) / (course length in days / 100 days)*

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Methods

- Ethics approval from BUHREC & ADHREC

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Results

- ASC (100 days):
  - 73 recruits, nil excluded
  - 13 recruits injured (17.8%)

- ARC (80 days):
  - 194 recruits (23 excluded from original data set)
  - 27 recruits injured (13.9%)

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Results

- Injury prevalence:
  - ASC: 17.8%
  - ARC: 13.9%
- Injury incidence:
  - ASC: 17.8 / 100 soldiers / 100 days
  - ARC: 17.4 / 100 soldiers / 100 days

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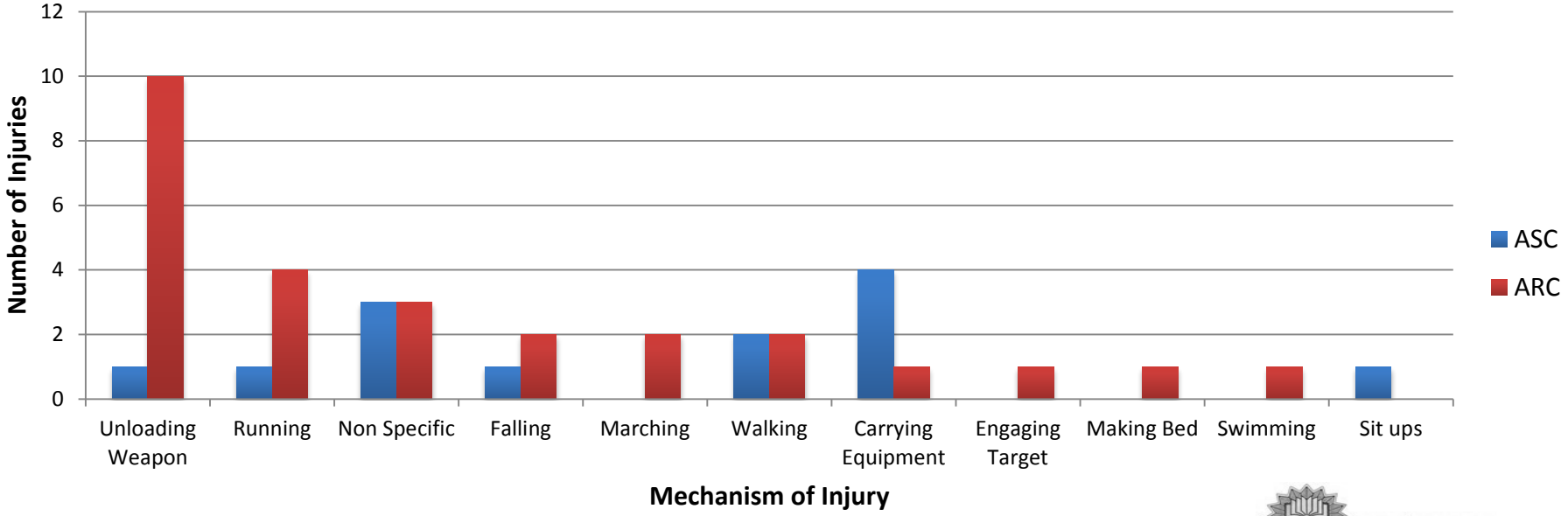
Results



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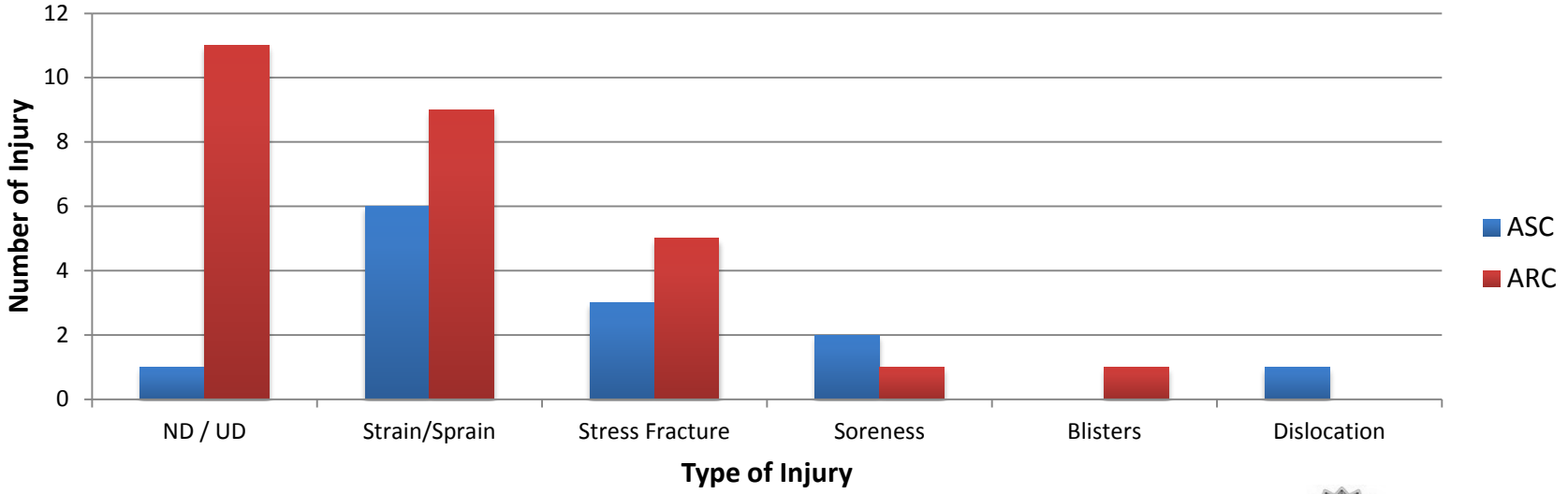
Results



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Results

- Collectively the highest anatomical injury sites:
  - Ankle/foot: 20%
  - Back/torso: 12.5%
  - Lower leg: 12.5%

- ASC (100 day):
  - Back/torso: 30.7 %
  - Ankle/foot 15.4 %
  - Shoulder 15.4 %

ARC (80 day):

Ankle/foot 22.2 %

Lower leg 14.8 %

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Discussion

- ASC had a notably higher prevalence of injuries compared to ARC
- However when looking at cohort size and exposure to training, both courses had similar incidence rates
- In contrast to previous studies, the current study revealed much lower prevalence and incidence rates

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Discussion

- Prevalence
  - Current study: ASC: 17.8 % & ARC: 13.9% prevalence
  - Havenetidis et al. (2011): 233 male Greek army recruits, 7 week course - 28.3% prevalence
- Incidence
  - Current study: ASC: 17.8 % & ARC: 17.4% incidence
  - O'Connor et al. (2000): 480 Marine Corp officers, 6 week course - 60.7% incidence

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Discussion

- Most common anatomical sites of injuries:
  - Current study: Ankle and foot= 20 %
  - Similar to Havenetidis et al. (2011), O'Connor et al. (2000) and the Australian Department of Defence (2000) the most common injury sites were to the ankle and foot.
  - These sites of injury were also in the top three injury sites in studies by Ross & Allsopp (2002) and Knapik et al. (2001)




Discussion

- Most common type of injuries:
  - Current study:
    - Sprains and strains
    - Stress fractures
  - These injury types were also found to be the most common type in studies conducted by Havenetidis et al. (2011) and O'Connor et al. (2000)




Conclusion / Take Home Message

- While the ASC had a higher prevalence of injury when injuries took into account exposure, incidence rates were virtually identical
- Lengthening a recruit training program (or period of training) with the aim of making it less intensive may not reduce the proportion of recruits injured - in fact, a higher proportion may be injured due to the longer period of exposure to training.

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